

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Digital Audio Broadcasting Systems and Their)	
Impact on the Terrestrial Radio Broadcast)	MM Docket No. 99-325
Service)	
)	

To: The Commission

**COMMENTS OF THE
CONSUMER ELECTRONICS ASSOCIATION**

The Consumer Electronics Association (“CEA”),¹ respectfully files these Comments on the In-Band/On-Channel Digital Radio Broadcasting Standard (“IBOC Digital Radio Standard”) adopted by the National Radio Systems Committee (“NRSC”).² CEA urges the Commission to incorporate this standard into its rules.

¹ CEA is the principal U.S. trade association of the consumer electronics and information technologies industries. Our members design, manufacture, distribute and sell digital and analog television receivers and monitors and associated electronics, digital video recorders (“DVRs”), video cassette recorders (“VCRs”), direct broadcast satellite radios (“DARS”) and television receivers (“DBS”, “DCR”, and terrestrial broadcast), broadcast AM and FM radios, and similar equipment. Our members also design and manufacture unlicensed devices such as Wi-Fi network devices that connect personal computers, personal digital assistants (“PDAs”) and laptops to peripheral devices and networks, cordless phones, baby monitors, and wireless headsets. CEA’s more than 2,000 member companies include the world’s leading consumer electronics manufacturers.

² Comment Sought on National Radio Systems Committee’s “In-Band/On-Channel” Digital Radio Broadcasting Standard NRSC-5, *Public Notice*, DA 05-1661, June 16, 2005.

I. CEA URGES THE COMMISSION TO ADOPT A SINGLE IBOC DIGITAL RADIO STANDARD

For IBOC digital radio technology to be as successful and ubiquitous in the marketplace as analog AM/FM radio technology, the Commission must adopt a single IBOC digital radio standard. The Commission must specify the technical parameters of the IBOC digital radio signal in order for all receiver manufacturers to have confidence that the equipment they build will work for anyone listening to IBOC digital radio anywhere in the country.

Receiver manufacturers, broadcasters and consumers need the certainty that an FCC-mandated single standard provides in order to have enough confidence in the long-term usefulness of IBOC digital radio equipment to invest in it.

A. The IBOC Digital Radio Standard's Lack of an Audio Codec, Though Not Optimal, is Acceptable.

As noted above, CEA strongly believes that the Commission should adopt a single IBOC digital radio standard. Ideally, this standard would specify completely all aspects of an IBOC digital radio transmission system. In this case, however, the NRSC was unable to include an audio codec in its specification because iBiquity Digital Corporation did not want to disclose the details of its HDC codec. The NRSC did not want to include a different codec in its specification because many radio stations already were broadcasting IBOC digital radio signals using the HDC codec, and receivers with this codec were already in the marketplace.

Given these circumstances, it was the consensus of the NRSC that NRSC-5 should be published without a codec specification. In light of the fact that, after much debate, the open standards committee that developed NRSC-5 concluded that the standard should be published without a codec specification, CEA supports this conclusion. While CEA would prefer that a codec be included in the specification, we note that the NRSC made its best effort toward this end and, ultimately, concluded that NRSC-5 is an appropriate standard even without an audio codec. CEA therefore urges the Commission to incorporate NRSC-5 into its rules even though the standard does not include an audio codec.

B. Current NRSC Development of an Advanced Data Services Specification Should Not Delay the Commission's Consideration of NRSC-5.

Section 5.3 of NRSC-5 contains a placeholder for an advanced data services specification. The NRSC currently is developing this specification, which will provide broadcasters with the ability to transmit any content that can be expressed as a data file or a data stream. Although part of NRSC-5, this specification will be independent enough that it could be considered separately from the rest of NRSC-5. Thus, it would be possible in the future for the Commission to invite public comment only on the advanced data services portion of NRSC-5, leaving intact the conclusions about the rest of the standard reached during the current comment period.

CEA urges the Commission to move forward in this manner to avoid unnecessary delays in the ultimate resolution of this IBOC digital radio proceeding.

II. IBOC DIGITAL RADIO INTELLECTUAL PROPERTY MUST BE AVAILABLE TO ALL UNDER REASONABLE AND NON-DISCRIMINATORY TERMS

Any IBOC digital radio standard that the Commission adopts must meet the same criteria with respect to intellectual property as the open standards that are developed by CEA and other standards development organizations. All intellectual property included in the standard must either be available free of charge to those wishing to use it, or it must be licensed under reasonable terms in a non-discriminatory manner to anyone who wishes to use it.

During the development of the IBOC digital radio standard the NRSC made repeated requests for owners of intellectual property needed to implement the standard to provide statements to the NRSC indicating their willingness to license their intellectual property under reasonable and non-discriminatory terms. In response to these requests, iBiquity Digital Corporation and Impulse Radio submitted IP proffers to the NRSC. Both companies indicated that they have intellectual property that may be needed to implement the IBOC digital radio standard, and that they are willing to license this technology under reasonable and non-discriminatory terms.³

³ See Letter from Albert Shuldiner, Sr. Vice President and General Counsel, iBiquity Digital Corporation to the National Radio Systems Committee, April 13, 2005. See also Letter from Paul Signorelli, Chief Technology Officer, Impulse Radio to the National Radio Systems Committee, May 2, 2005.

III. THE COMMISSION SHOULD PERMANENTLY ALLOW MULTICASTING AND DATACASTING

The IBOC Digital Radio Standard includes provisions for separating the transmitted bitstream into multiple audio programs.⁴ The Commission already has recognized the potential value of this capability and allowed stations to begin transmitting multiple audio streams under experimental authority.⁵ The ability to transmit multiple audio streams over a single channel will enable broadcasters to greatly enhance their service to the public. Further, these new services will help to fuel the demand for IBOC digital radio receivers, allowing receiver manufacturers to produce higher volumes of product at lower unit costs more quickly. All in all, multistreaming capability is good for the public, broadcasters, and receiver manufacturers. The Commission should include permanent authorization for multiple audio streams in its adoption of the IBOC Digital Radio Standard.

A. Permanent Authorization for Multicasting and Datacasting Should Be Granted Immediately To Instill Confidence in Consumers and Receiver Manufacturers.

A few consumer electronics companies are introducing new receiver products with multicasting capabilities into the marketplace this year.⁶ It is difficult to do this when multicasting is being offered by broadcasters on an experimental basis. In order for

⁴ National Radio Systems Committee, *In-Band/On-Channel Digital Radio Broadcasting Standard (NRSC-5)*, April, 2005, Section 5.2.

⁵ Commission Clarifies Policy Regarding Multiple Audio Streams in IBOC Transmissions, *Public Notice*, DA 05-609, March 8, 2005.

⁶ Some of these include Boston Acoustics' Receptor Radio HD (http://www.bostonacoustics.com/whats_new.asp), Polk Audio's I-Sonic Entertainment System (<http://www.polkaudio.com/I-Sonic/>) and the Radiosophy™ MultiStream™ HD Radio™ receiver (<http://www.radiosophy.com/products.html>).

such receivers to become widely available at prices that are affordable to all, receiver manufacturers and consumers alike need to be confident that multicast offerings will continue to be provided and will in fact expand. To this end, the Commission should immediately issue a report and order authorizing multicasting and datacasting on a permanent basis. There is no reason to treat multicasting or datacasting any differently than main channel IBOC digital radio as far as Commission authorizations are concerned. The Commission should not delay permanent datacasting and multicasting authorizations pending the completion of its consideration of the comments on NRSC-5, but should immediately proceed with permanent datacasting and multicasting authorizations and address the NRSC standard in a follow-on proceeding.

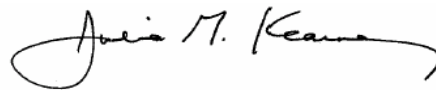
IV. REVIEW OF ALL-DIGITAL IBOC POWER LEVELS IS NEEDED BEFORE SPECIFIC TRANSMITTER POWER LEVELS CAN BE DEFINED

Ultimately, after enough IBOC digital radio receivers are in the hands of consumers, the IBOC Digital Radio Standard will enable broadcasters to turn off their analog transmitters and increase the data rate of their digital transmitters. This will provide higher data rates, improved signal quality and improved coverage. Before the Commission adopts any technical rules concerning the transmitter power levels for such an all-digital mode of operation, industry should have an adequate opportunity to study the interference and performance ramifications and make related recommendations. CEA therefore encourages the Commission to abstain from defining specific transmitter power levels for this mode of operation at this time.

CONCLUSION

For the reasons expressed herein, CEA urges the Commission to immediately provide permanent authorization for multicasting and datacasting, and to ultimately incorporate NRSC-5 into its rules.

Respectfully submitted,



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